HENRYS LAKE HATCHERY
ANNUAL REPORT

October 1, 1989 to December 31, 1990

Prepared by:

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INTRODUCTION

Henrys Lake Hatchery is located in the Island Park area of Fremont County in east-central Idaho. The spawning building was constructed in the 1920s to collect Henrys Lake cutthroat eggs. The hatchery is still used primarily as an egg-taking station and ships eyed eggs of cutthroat Oncorhynchus clarki, rainbow x cutthroat hybrids O. mykiss x O. clarki, and brook trout Salvelinus fontinalis to statewide hatcheries.

HATCHERY IMPROVEMENTS

1. The egg incubation room was completely rebuilt. A wall was constructed to create two rooms, the attic was insulated, egg picking and shipping benches were built, water pipes were repaired, shelves were built, an electric heater was installed, and both rooms were painted.

2. The springhouse was completely rebuilt, and the spring itself was flushed of sediment.

3. The rearing pond was filled in with 1,000 yards of fill material and a visitor parking area and fish show pond were created in its place.

4. Ten covers were built for the cement spawning ladder, which are capable of deterring theft and bird depredations.

5. Extensive work was completed on the crews quarters cabin, including refinishing all the pine walls, installation of new kitchen counters, installation of new sub-flooring, and the construction of a new bunk house in the attic.

PUBLIC RELATIONS

During the past year, an estimated 15,000 to 17,000 visitors came to the hatchery for tours, information, and to fish. Contacts were made with landowners around Henrys Lake to gain further support for the Department-sponsored habitat improvement projects. Thousands of anglers were interviewed while fishing on the lake. A large amount of time was spent constructing and maintaining electric fences, fish screens, and completion of habitat improvement projects on the lake's tributaries.

Contacts with local newspapers include two articles on cutthroat spawning, one article on making Timber Creek a water of special concern, and one article on fish salvage operations on the Henrys Lake Outlet.

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FISH HEALTH

Department personnel from the Eagle Fish Health Laboratory conducted fish health inspections during both the spring cutthroat and fall brook trout spawning season (Table 1). Brood fish were tested for viral, bacterial, and protozoan pathogens.

A total of 60 natural brook trout and 63 Temiscamie brook trout were sampled during the fall of 1989. One naturalized brook trout was found to be carrying IPN virus, so the eggs from that lot were destroyed.

Samples from cutthroat were taken throughout the spring of 1990 spawning run, and several fish were found to carry BKD. No other disease agents were found.

During the fall of 1990, the brook trout were again tested with coldwater disease and furunculosis being detected.

SPAWNTAKING OPERATION

A total of 165 Temiscamie brook trout were captured in a trap net located off of the mouth of the hatchery ladder between October 8 to October 29, 1989 (Figure 1). Males (n=76) averaged 418 mm and ranged from 321 mm to 520 mm (Figure 2) and comprised 46% of the run, while females (n=89) averaged 423 mm and ranged from 335 mm to 491 mm (Figure 2). A total of 141,600 Temiscamie brook trout eggs were collected {Table 2).

A total of 363 natural brook trout were captured at the same location between October 8 to October 31, 1989 (Figure 3). Males (n=173) averaged 405 mm and ranged from 240 mm to 500 mm (Figure 4) and comprised 48% of the run, while females (n=190) averaged 390 mm and ranged from 290 mm to 480 mm (Figure 4). A total of 232,900 natural brook trout eggs were collected. However, 87,000 of these eggs were discarded when they were found to be carrying IPN. Thus, 145,900 natural brook trout eggs were retained (Table 2).

From March 3 to May 12, 1990, a total of 23,403 cutthroat trout (Figure 5) and 3,569 hybrid trout (Figure 8) entered the fish ladder at Hatchery Creek. In addition, approximately 2,000 to 3,000 fish remained at the mouth of the ladder when the spawnhouse was closed. A representative sample of eggs were taken throughout the run, then the fish ladder was closed when the statewide egg take requirement was met (Table 3).

A total of 959 cutthroat trout were measured during the 1990 spawning run. Male cutthroat trout (n=542) comprised approximately 60% of the spawning run and averaged 440 mm in total length, with a range from 330 mm to 600 mm (Figure 6). Female cutthroat trout (n=417) averaged 450 mm in total length, with a range from

Table 1. Pathology test results, Henrys Lake Hatchery, 1989-1990

Species/strain	Sample Date	VH	VP	VE	BK	BR	BF	PW	PX	PC	BGD
Brook (TBK)	10-26-89	-	-	-	-	x	x	x	-	-	x
Brook (TBK)	11-24-89	-	-	x	x	x	x	x	x	x	x
Brook (NBK)	10-26-89	-	+	-	-	x	x	-	x	-	x
Cutthroat (C3)	3-12-90	-	-	x	+	x	x	-	x	x	x
Cutthroat (C3)	3-27-90	-	-	x	+	x	x	x	x	x	x
Cutthroat (C3)	3-30-90	x	x	x	-	x	x	x	x	x	x
Cutthroat (C3)	4-10-90	x	x	x	-	x	x	x	x	x	x
Cutthroat (C3)	5-10-90	x	x	x	-	x	x	x	x	x	x
Brook (TBK)	10-29-90	-	-	x	-	-	+	-	x	x	x
Brook (TBK)	11-05-90	-	-	x	-	x	x	x	x	x	x
Brook (NBK)	10-29-90	-	-	x	-	-	-	-	x	x	x
Brook (NBK)	11-05-90	-	-	x	-	x	x	x	x	x	X

Legend:

VH = IHNV, infectious hematopoietic necrosis virus.
VP = %PNV, infectious pancreatic necrosis virus.
VE = EIBS, erythrocytic inclusion body syndrom virus.
BK = bacterial kidney disease agent.
BR = enteric redmouth bacterium.
BF = bacterial furunculosis.
PW = whirling disease agent.
PX = PKK, agent of PKD, proliferative kidney disease.
PC = Ceratomyxa shasta.
BGD = Bacterial gill disease.

\+ = Positive results
\- = Negative results
x = Testing/sampling not feasible

FIGURE 1. RUN TIMING--1989

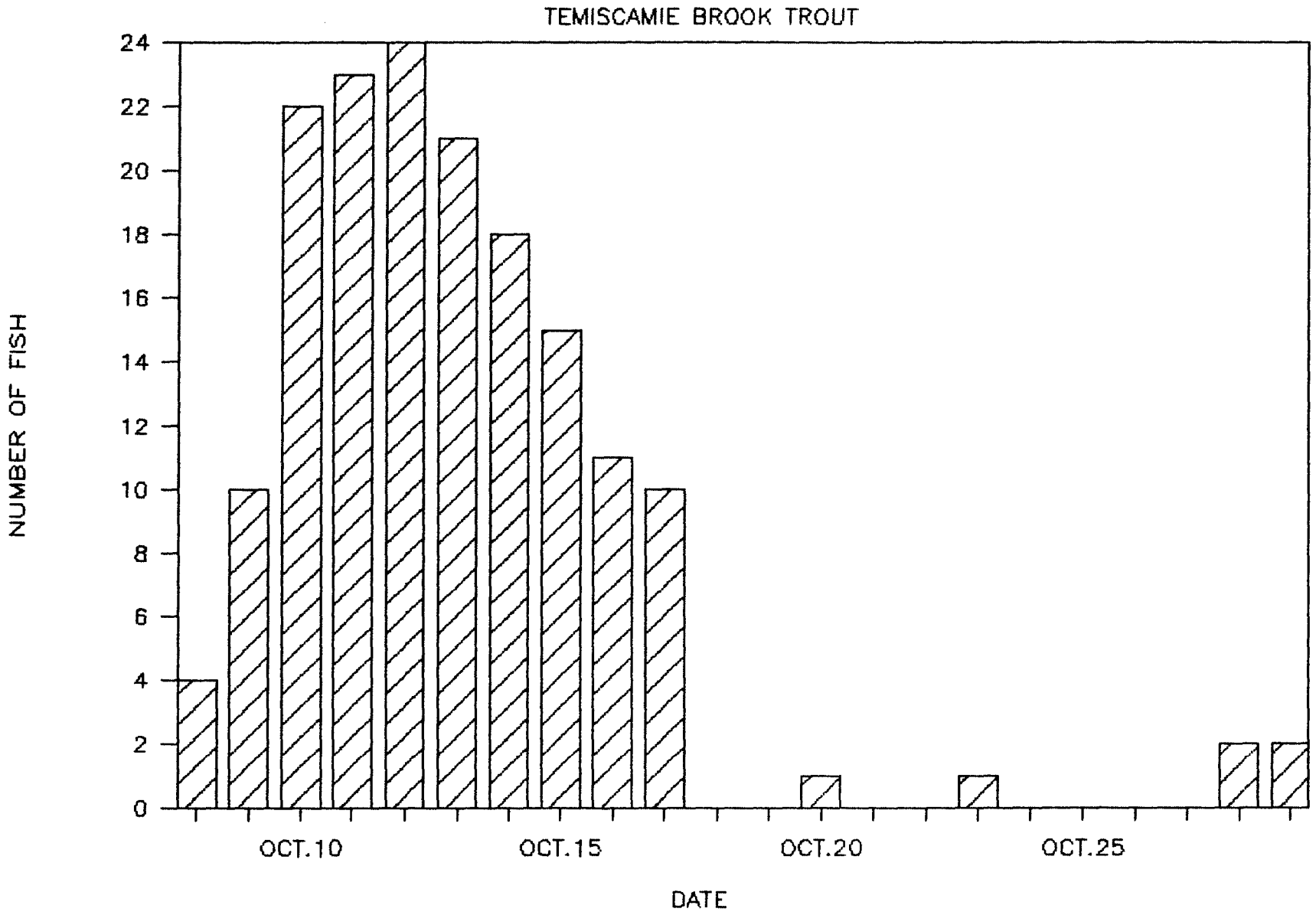
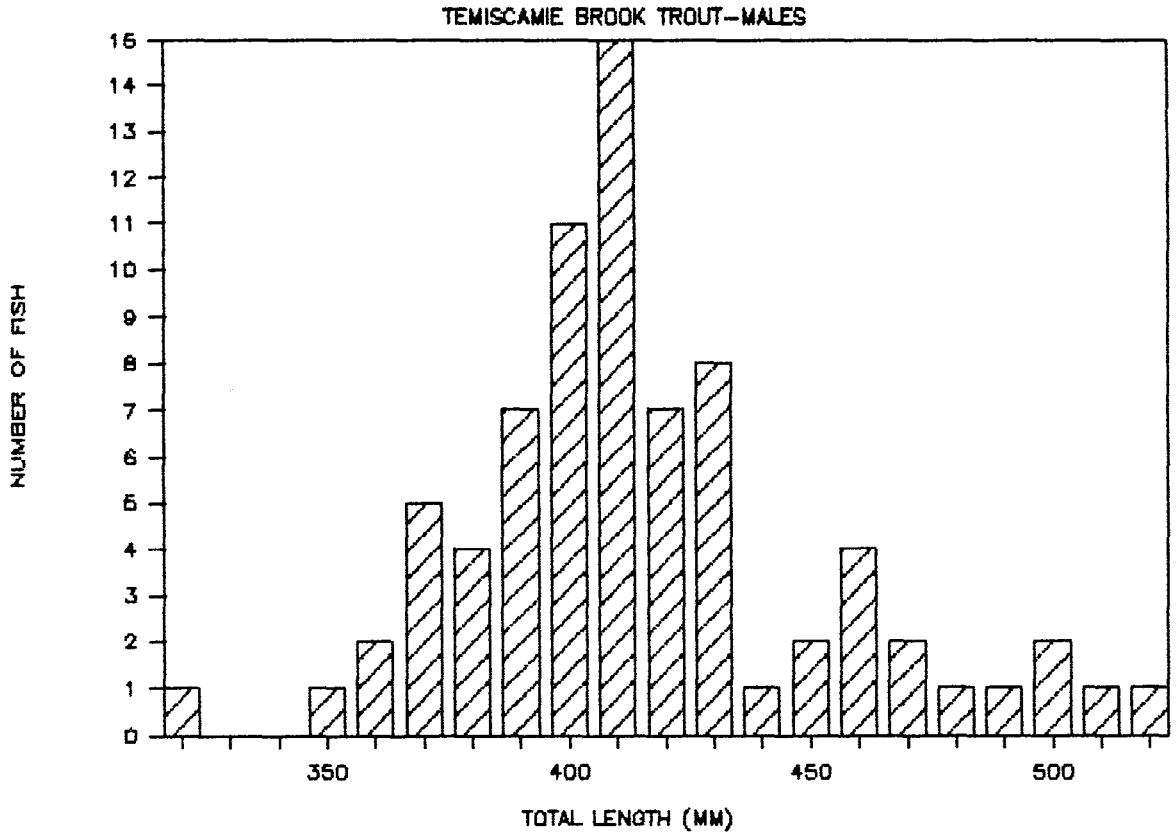


FIGURE 2. LENGTH FREQUENCY 1989



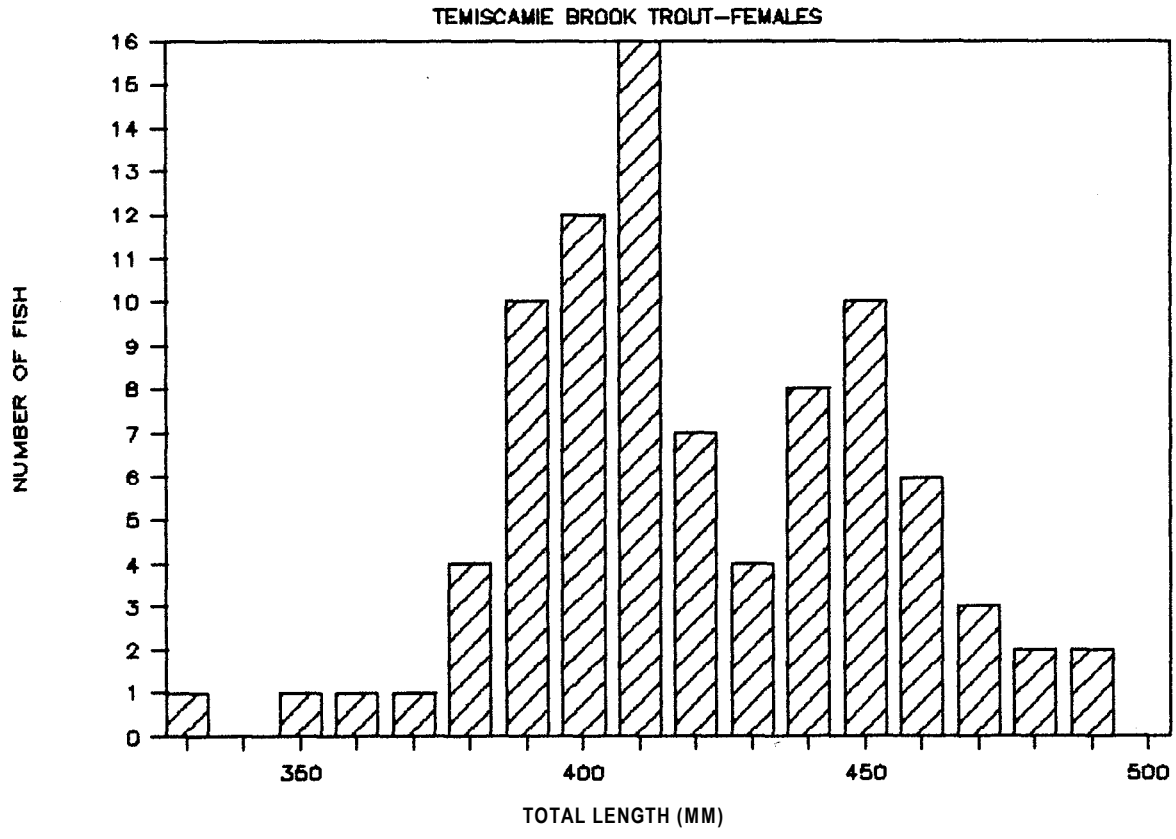


Table 2. Spawning summary at Henrys Lake Hatchery, 1989-1990.

	Green eggs	Eyed eggs	Percent eye-up
Brook (Naturals)	145,900	121,100	83
Brook (Temiscamie)	141,600	112,665	79
Cutthroat (C3)	3,000,000	2,580,000	86
Cutthroat x Eagle Lake (C3 x R7) normal	359,100	282,355	79
Cutthroat x Kamloop (C3 x K1) normal	1,122,848	935,302	83
Cutthroat x McConnaughy (C3 x R6) normal	799,824	706,729	88
Cutthroat x McConnaughy (C3 x R6) normal	754,419	*	--
Brook (Naturals)	129,994	109,195	84
Brook (Temiscamie)	121,662	101,255	83
Total	6,575,347	4,948,601	85**

* = eggs were shipped green to Ashton for eyeing, picking, and shipping.

** = Does not include green eggs shipped to Ashton.

FIGURE 3. RUN TIMING--1989

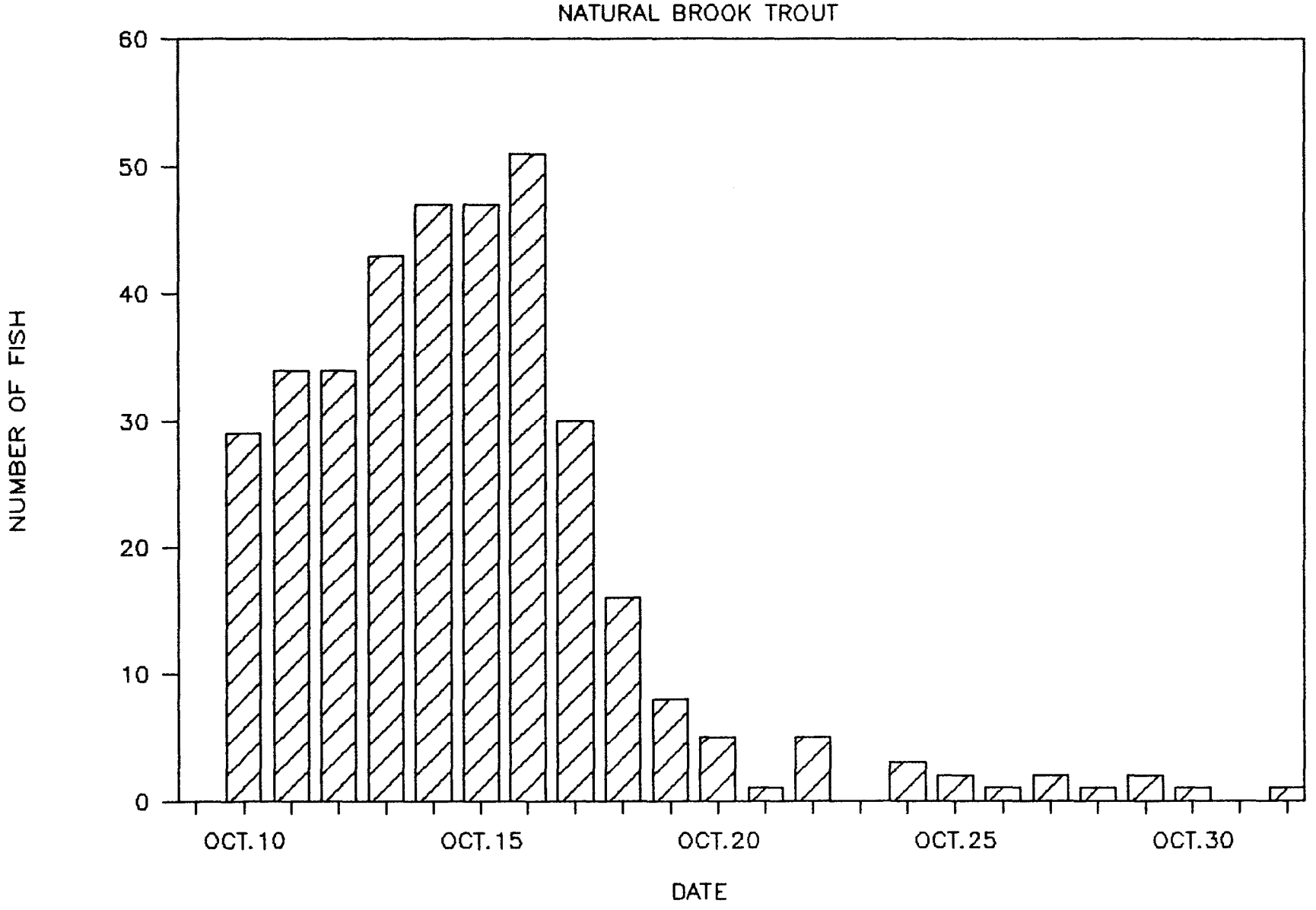
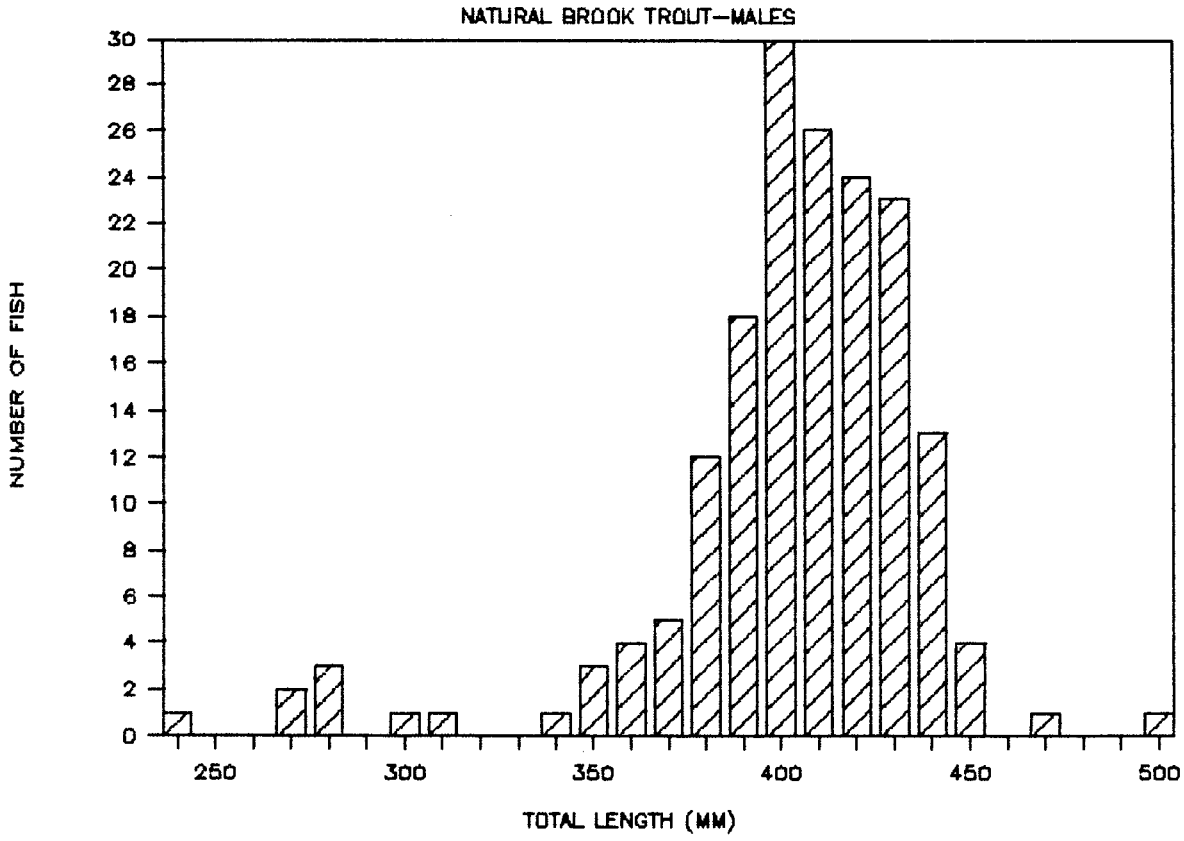
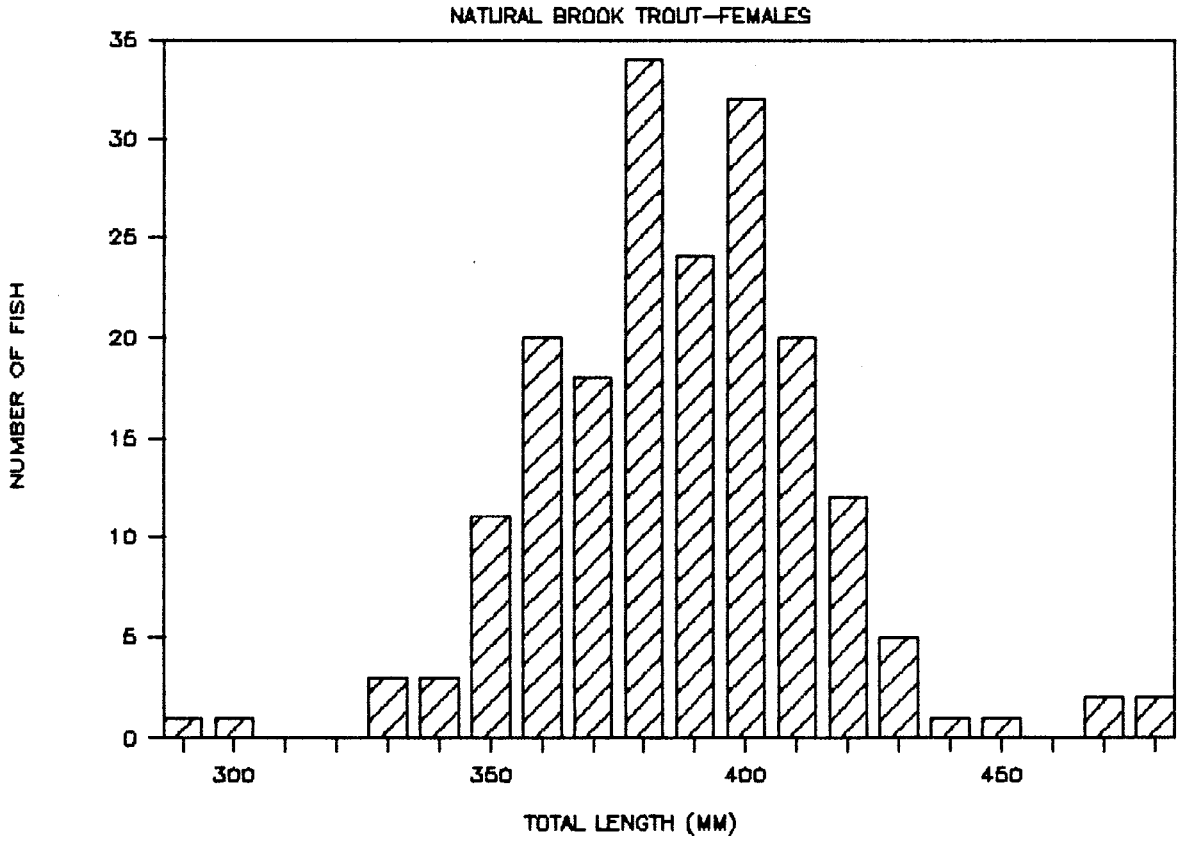


FIGURE 4. LENGTH FREQUENCY--1989





RUN TIMING OF H.L. CUTTHROAT 1990

FIGURE 5.

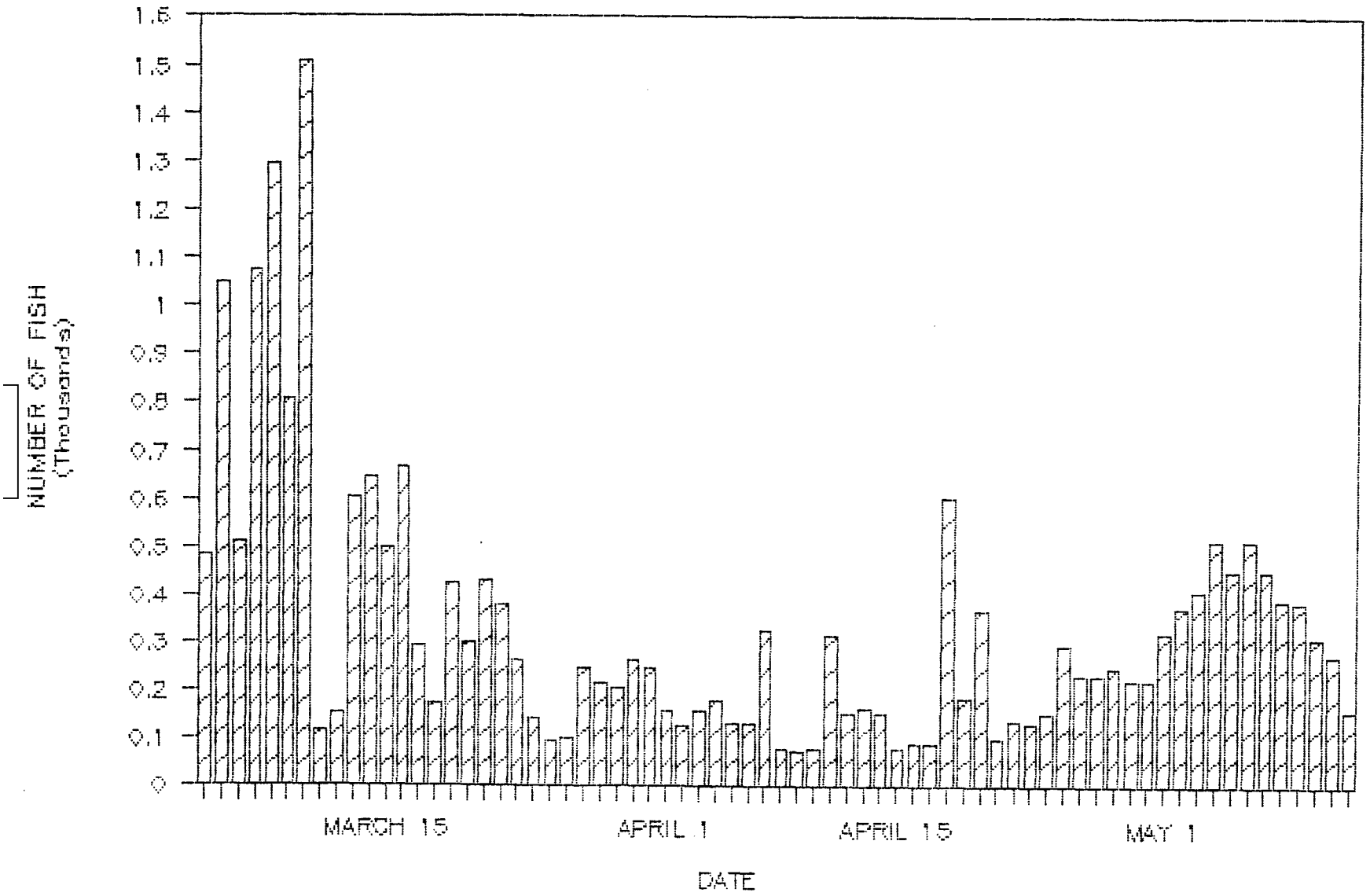


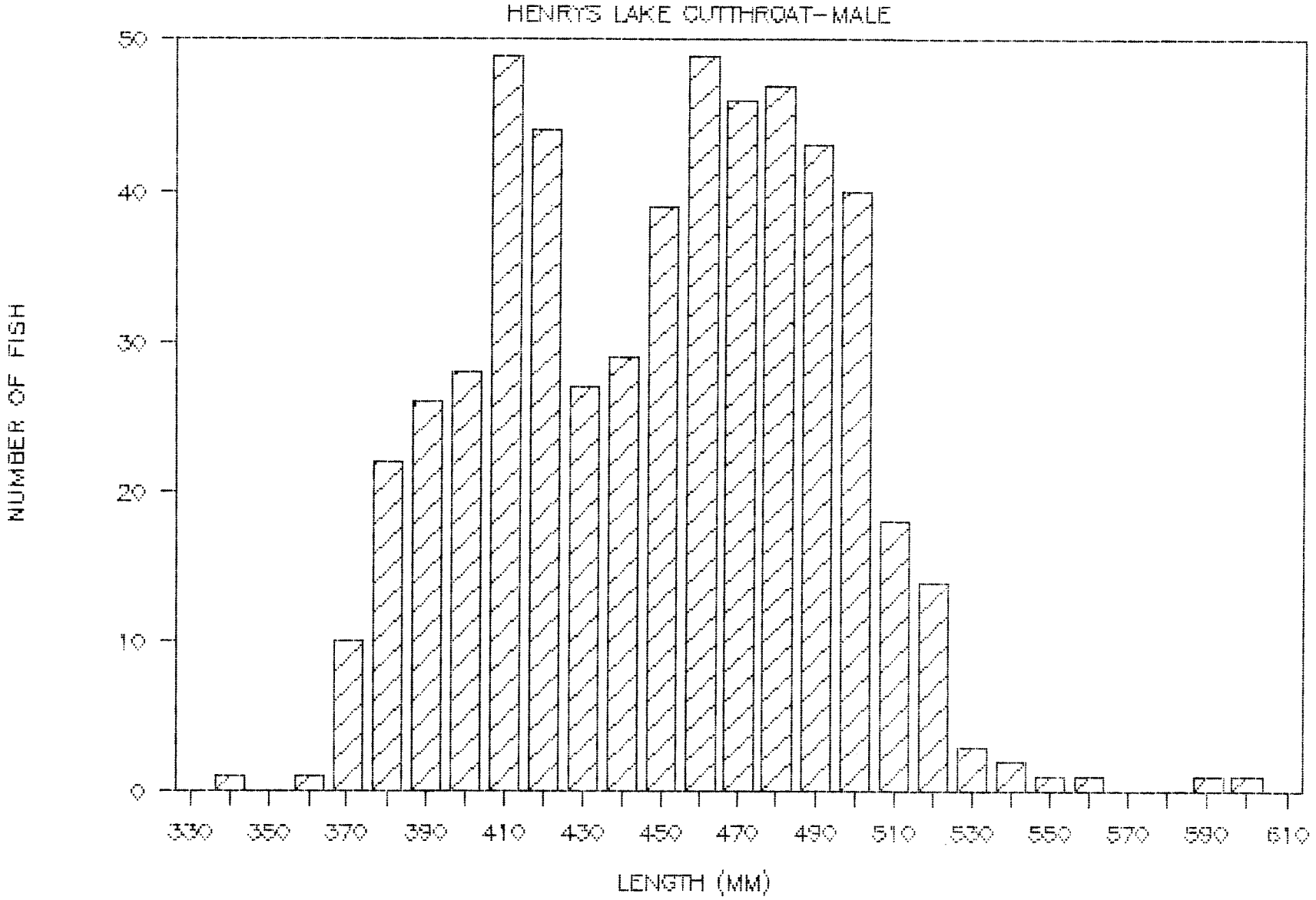
Table 3. Eyed Eggs shipped from Henrys Lake Hatchery, 1989-1990.

Species/strain	Eyed eggs shipped	Destination	Cost
Brook (natural)	121,100	Ashton/Clark Fork	$1,300
Brook (Temiscamie)	112,600	Ashton	1,000
Subtotal	233,700		2,300
Cutthroat (C3)	2,580,000	Ashton/Mackay/ Hagerman	9,500
Subtotal	2,580,000		9,500
C3 x R7	282,000	Mackay	500
C3 x K1	935,000	Mackay	1,700
C3 x R6	707,000*	Mackay/Hagerman	1,400
Subtotal	1,924,000*		3,600
Brook (natural)	109,000	Ashton/Clark Fork	1,300
Brook (Temiscamie)	101,000	Ashton	1,000
Subtotal	210,000		2,300
GRAND TOTAL	4,947,700		17,700

* Does not include the 754,000 green eggs shipped to Ashton.

** The cost was figured according to the amount of time and money spent for spawntaking, egg picking, shipping, ect.

FIGURE 6. LENGTH FREQUENCY -- 1990



330 mm to 580 mm (Figure 7). Approximately 10% of the cutthroat running the ladder were adipose fin-clipped. The total cutthroat egg take in 1990 amounted to 3,000,000 (Table 2).

Due to the largest spawning run ever recorded, large numbers of cutthroat spawners were collected in excess of the hatchery's needs. These fish were transported to other tributaries to spawn naturally. This included 3,216 cutthroat to Howard Creek, 3,744 cutthroat to Duck Creek, and 2,185 cutthroat to Targhee Creek. All of the females transported (n=4,377) were ripe, thus reducing the return to the hatchery fish ladder.

A total of 610 hybrid trout were measured during the 1990 spawning run. Male hybrid trout (n=243) comprised approximately 45% of the spawning run and averaged 540 mm in total length, with a range from 410 mm to 720 mm (Figure 9). Female hybrid trout (n=291) averaged 530 mm in total length, with a range from 400 mm to 700 mm (Figure 10).

Preserved rainbow trout sperm from three strains was obtained from the Ennis National Fish Hatchery in Montana to fertilize with eggs collected from Henrys Lake cutthroat. Kamloops, McConnaughy, and Eagle Lake strains were used to cross with 2,900,000 cutthroat eggs (Table 2).

A total of 83 Temiscamie brook trout were captured in a trap net located off the mouth of the hatchery ladder between October 16 to October 30, 1990 (Figure 1 1) . Males (n=32) averaged 400 mm and ranged from 230 mm to 540 mm (Figure 12) and comprised 39% of the run, while females (n=78) averaged 430 mm and ranged from 240 mm to 520 mm (Figure 12). A total of 121,662 Temiscamie brook trout eggs were collected (Table 2).

A total of 312 natural brook trout were captured in a trap net located off the mouth of the hatchery ladder between October 16 to October 30, 1990 (Figure 11). Males (n=78) averaged 440 mm and ranged from 270 mm to 520 mm (Figure 13) and comprised 36% of the run, while females (n=163) averaged 410 mm and ranged from 270 mm to 500 mm (Figure 13). A total of 129,994 natural brook trout eggs were collected (Table 2).

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FIGURE 7. LENGTH FREQUENCY--1990

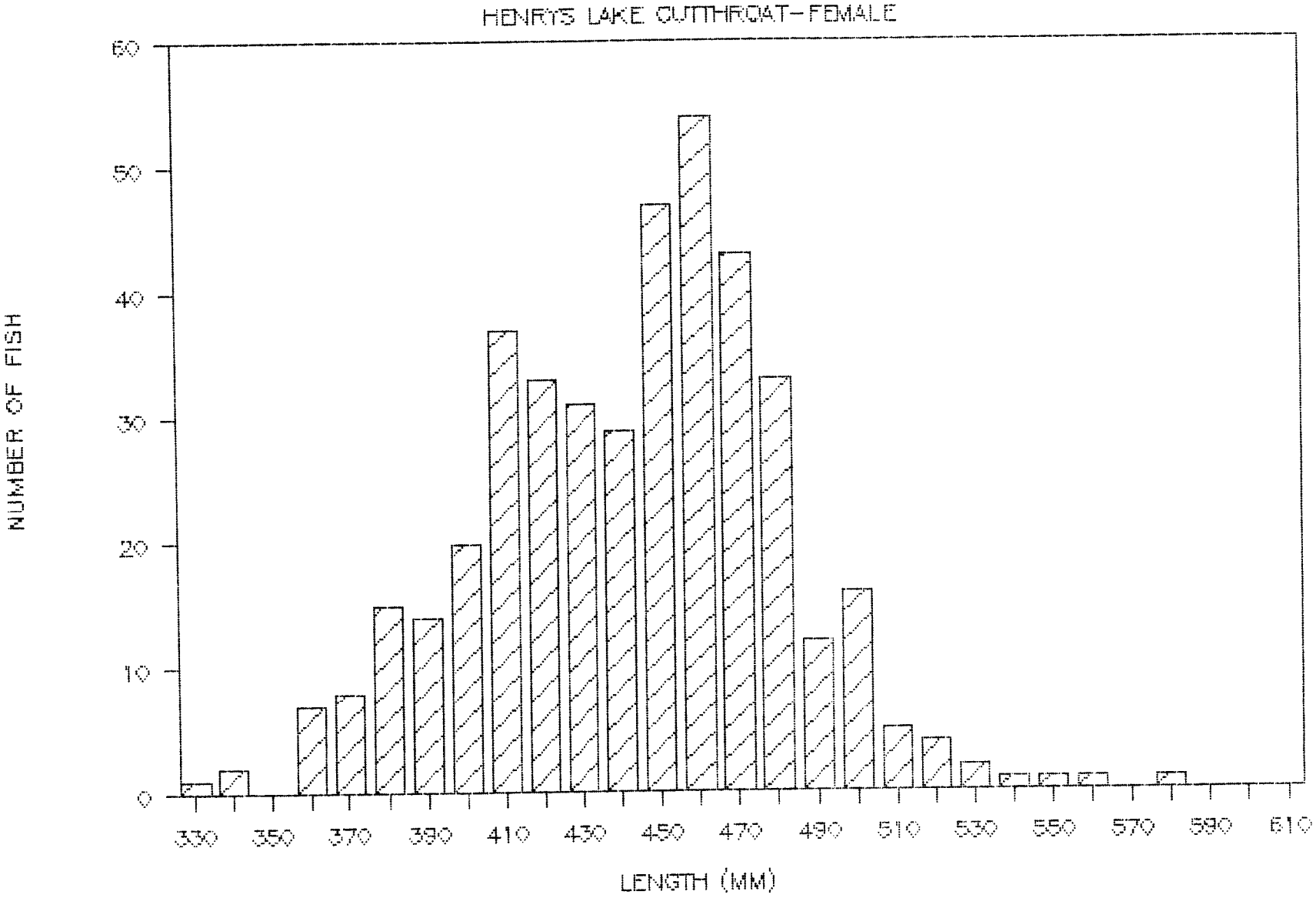


FIGURE 8. RUN TIMING---1990

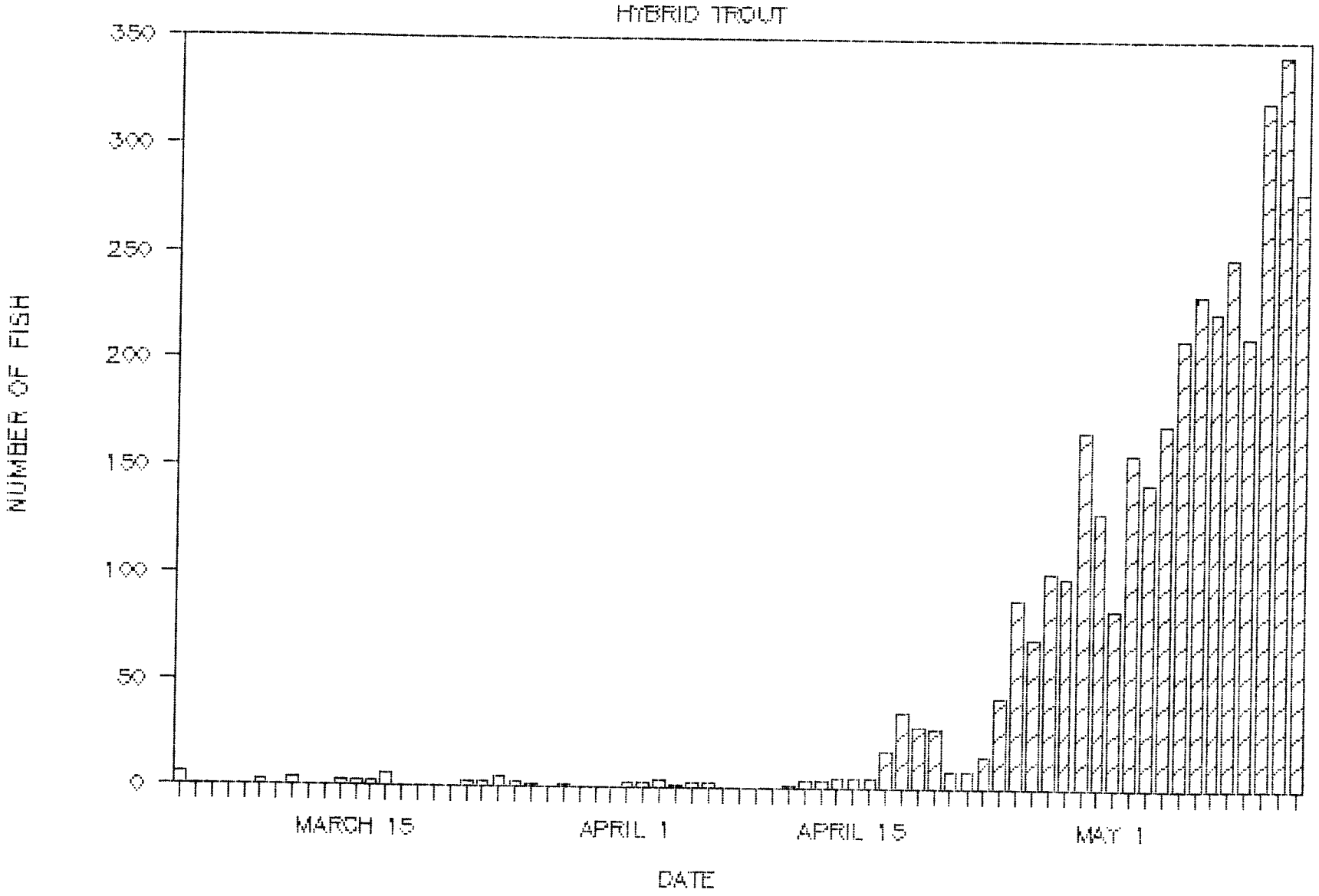


FIGURE 9. LENGTH FREQUENCY---1990

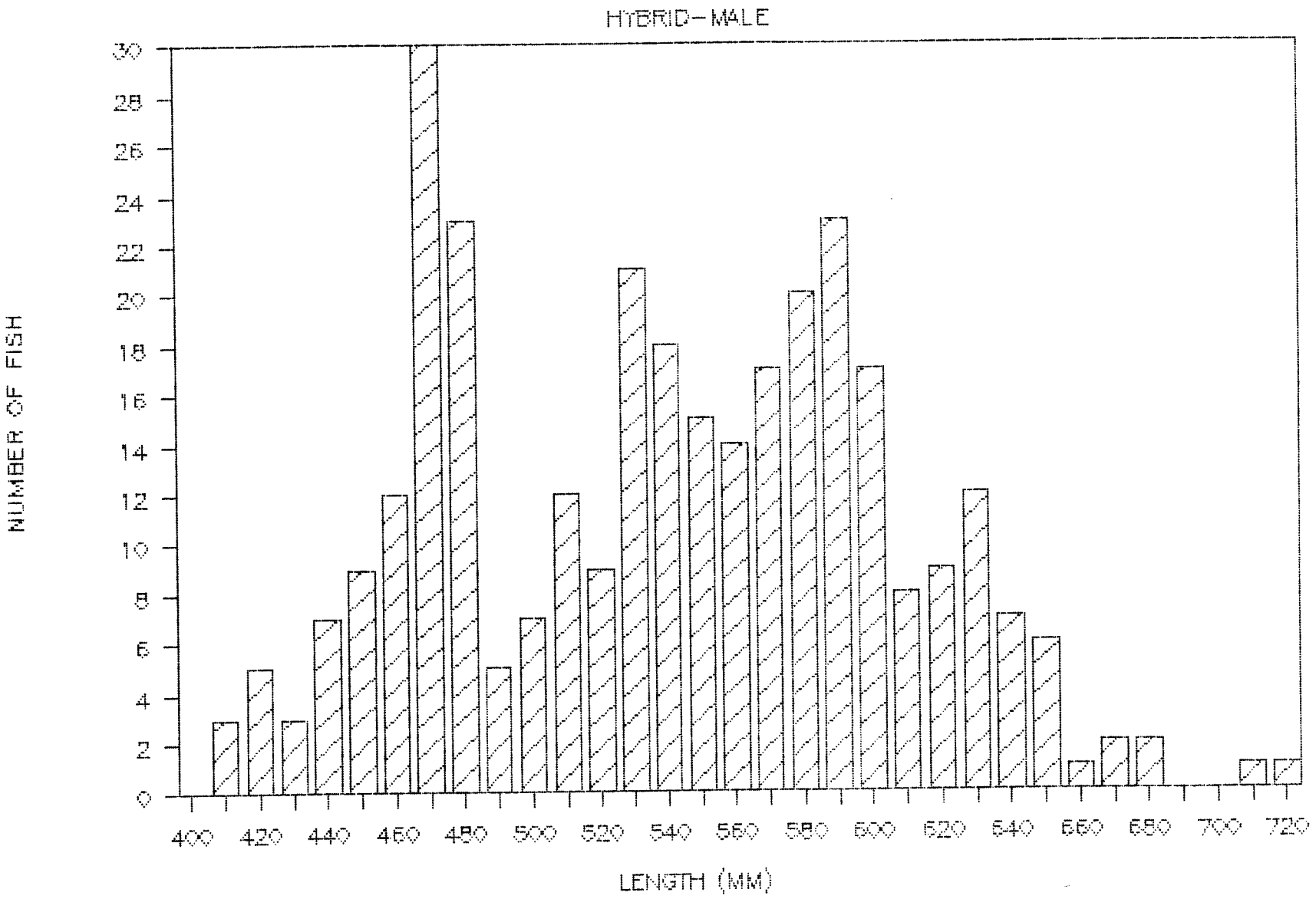


FIGURE 10. LENGTH FREQUENCY---1990

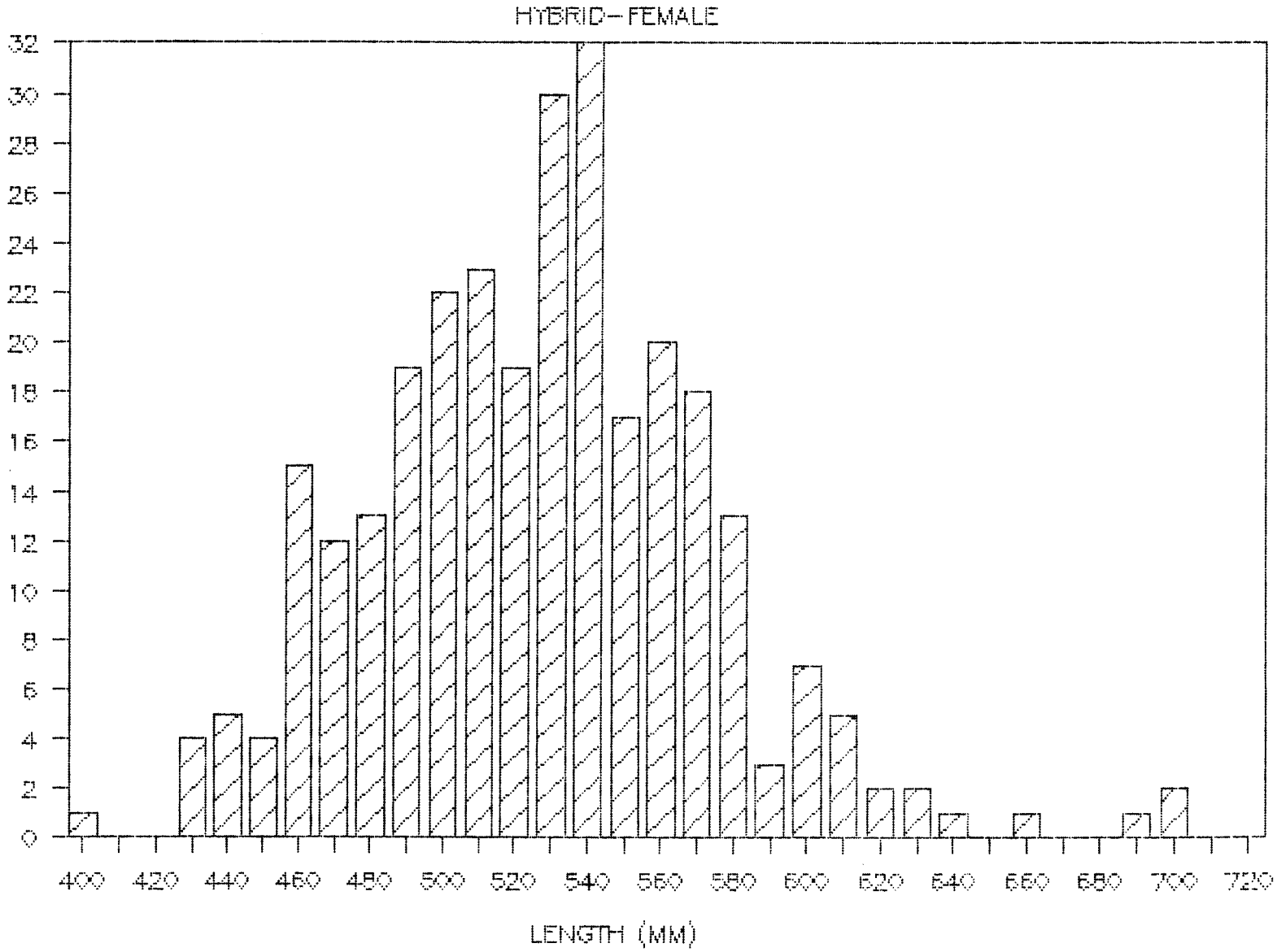


FIGURE 11. RUN TIMING---1990

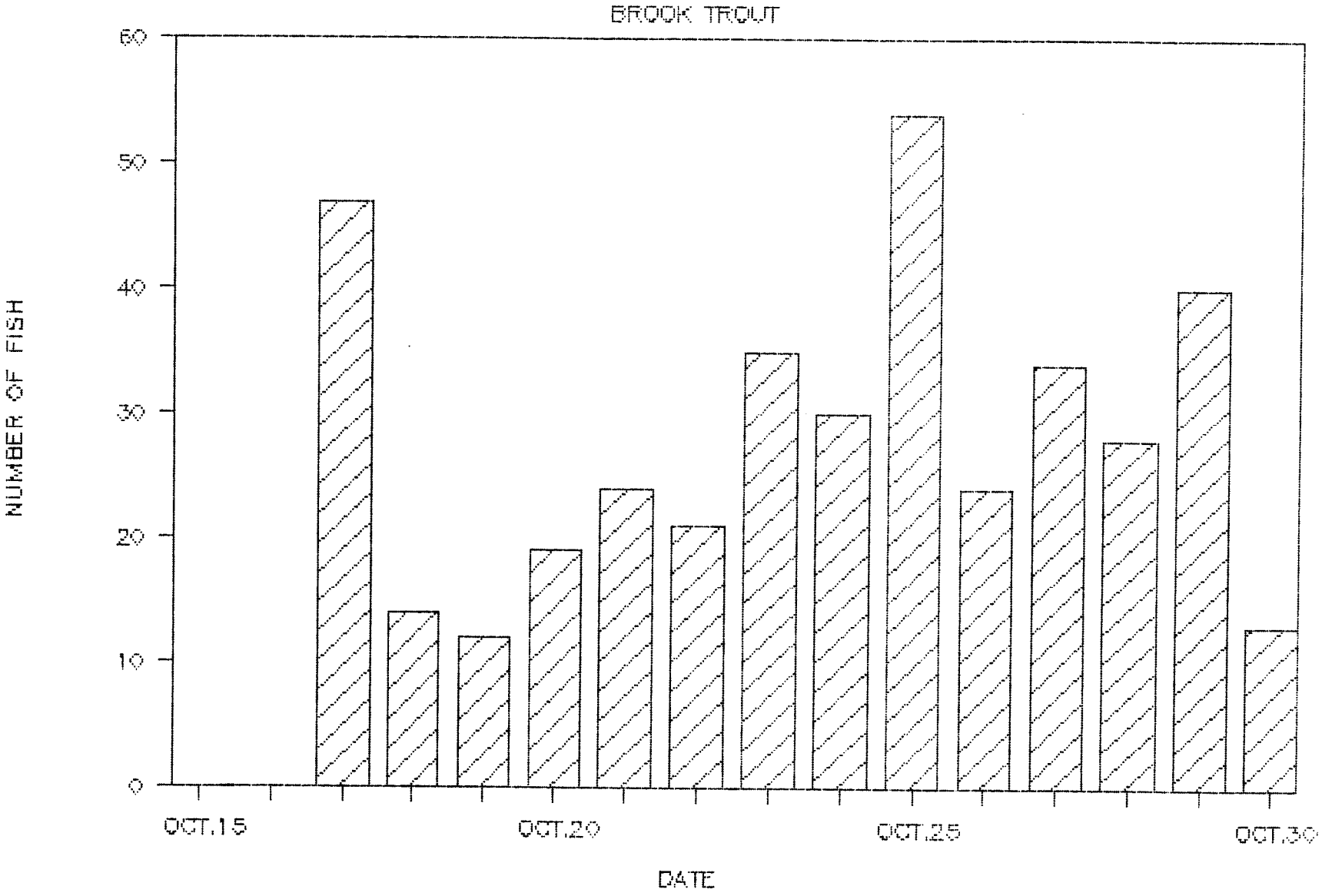


FIGURE 12 LENGTH FREQUENCY -- 1990

TEMISCAMIE BROOK TROUT--MALES

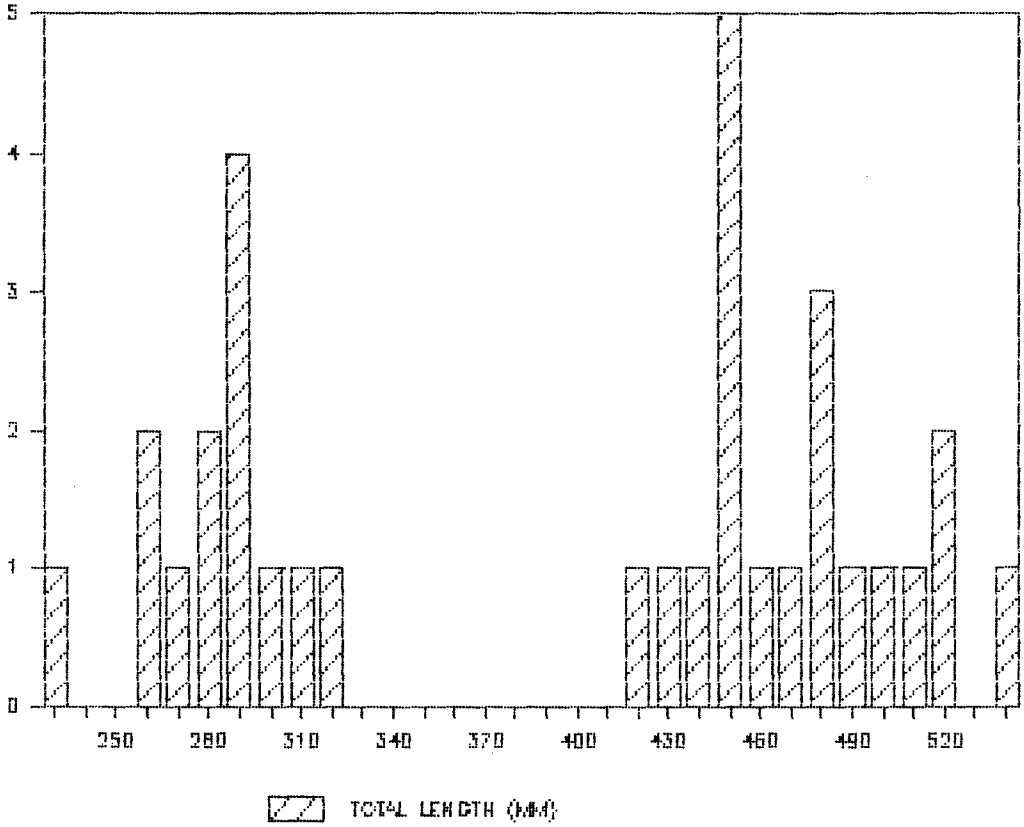


FIGURE 12 LENGTH FREQUENCY -- 1990

TEMISCAMIE BROOK TROUT--FEMALES

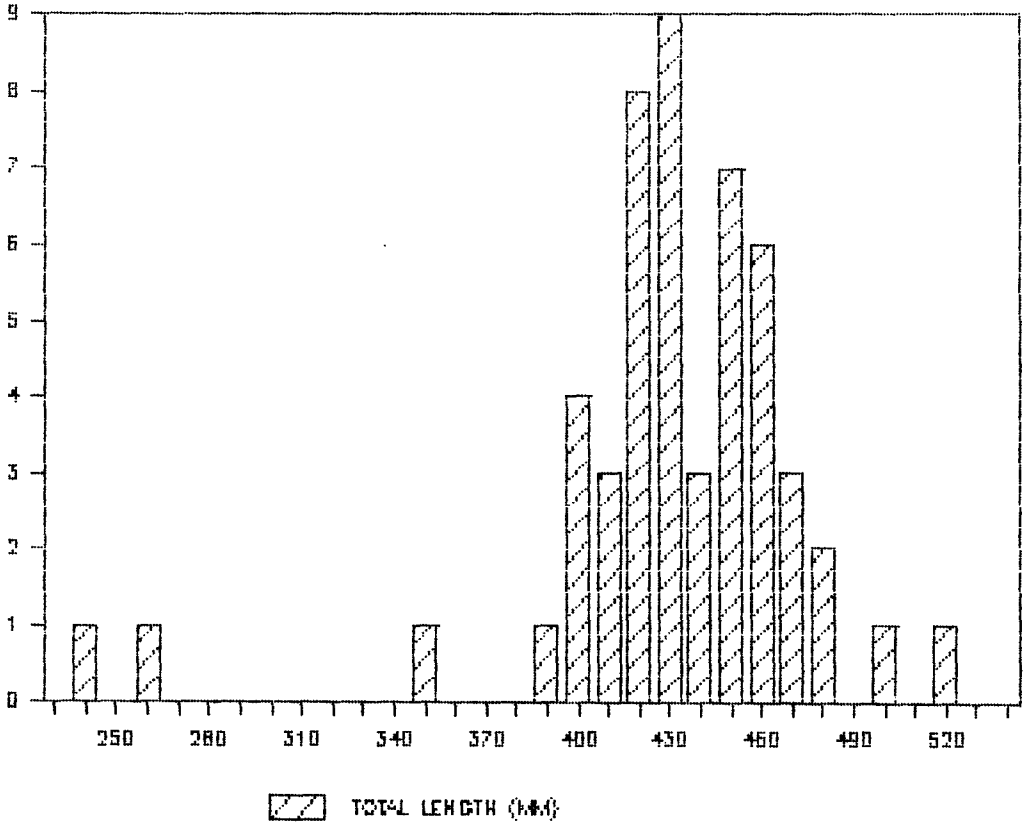
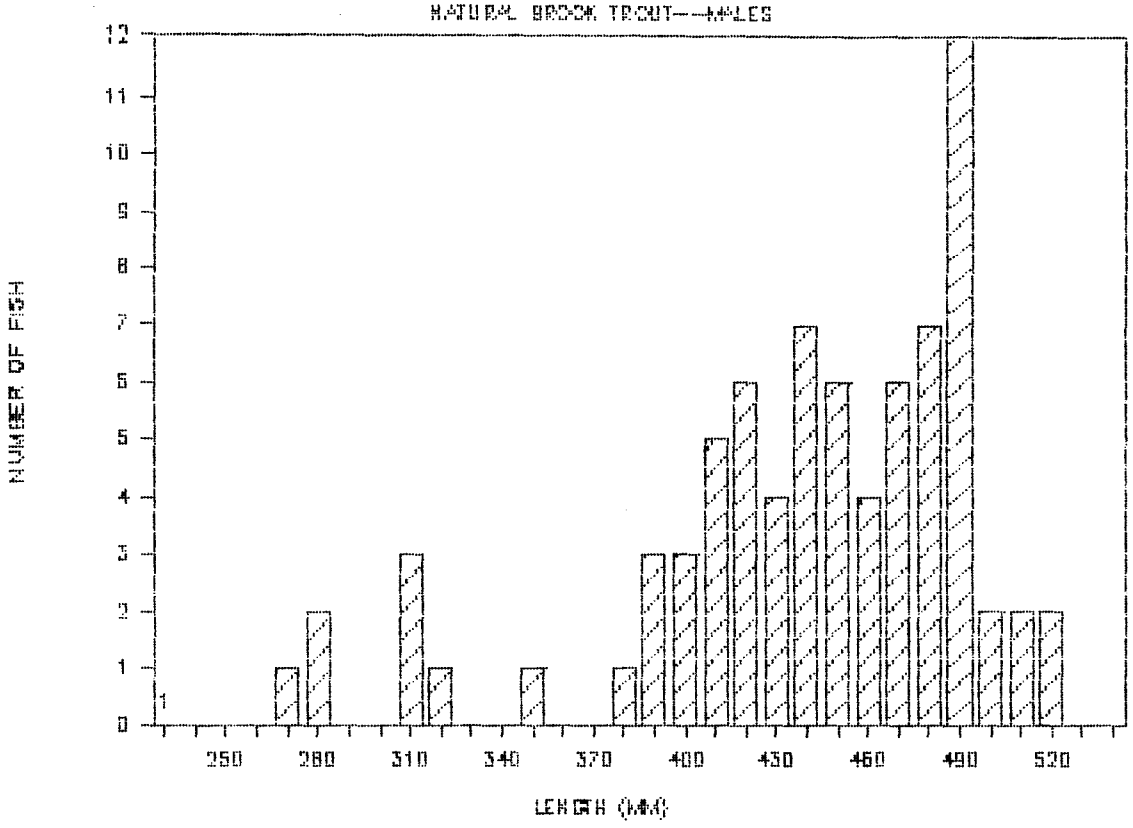
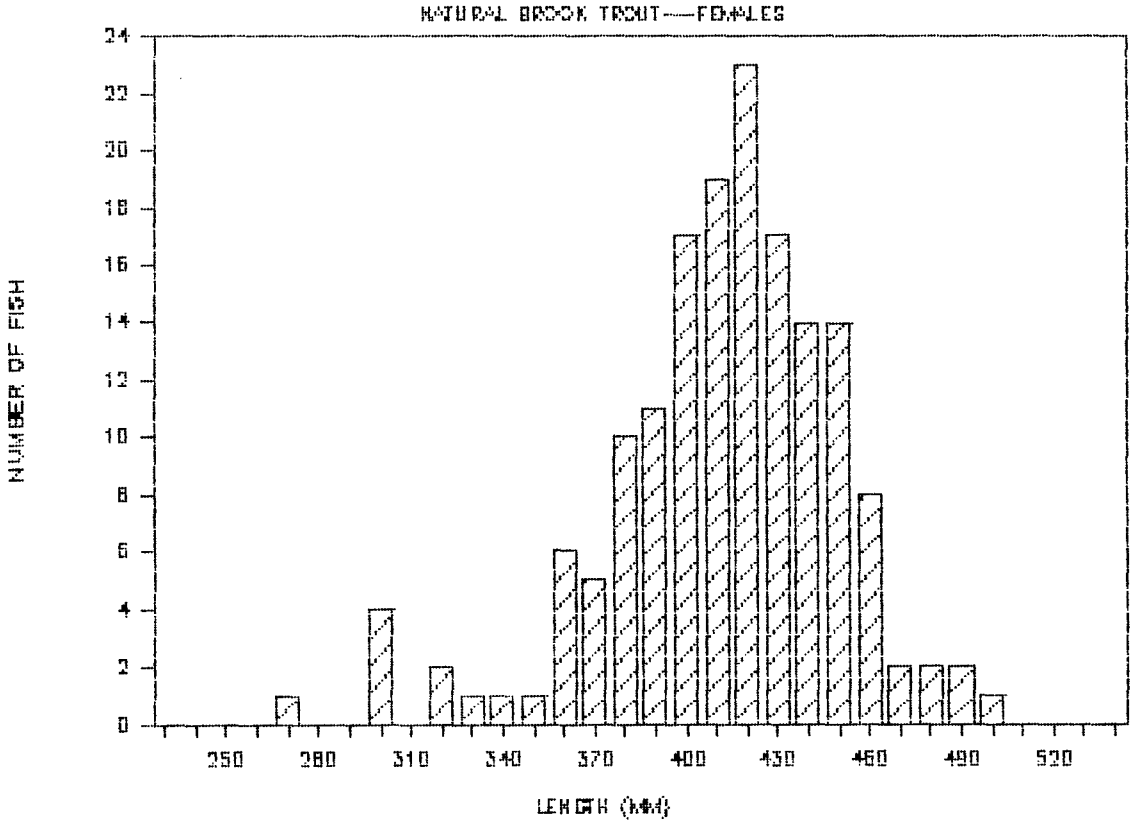


FIGURE 13. LENGTH FREQUENCY 1990





INTRODUCTION

Sawtooth Hatchery is a Lower Snake River Compensation hatchery and has been in operation since 1985. The hatchery was designed to produce 2.4 million spring chinook smolts and take and ship 4.5 million A & B steelhead eyed eggs. The hatchery became involved in stocking catchable rainbow trout in 1990. Rainbow stocking in the past has been done by Hayspur Hatchery, but with increasing fishing pressure, only fair return-to-the-creel, and rising transportation costs, a new stocking program was warranted. Our goal was to reduce Hayspur's cost in transportation and manpower, raise the return-to-the-creel, increase angler satisfaction and public relations in the area. With the cooperation of the U.S. Fish and Wildlife Service (our funding agency), the program was initiated and has met cost goals, as well as improving angler and public satisfaction.

PROGRAM COORDINATION

The program started by acquiring a used 500-gallon stocking tank from American Falls Hatchery, which required sandblasting and painting, new fresh flows, and rewiring. The new items were purchased off of Hayspur's resident hatchery budget along with the temporary employee time used for the actual budget. Transportation costs were also funded by Hayspur. After attending a coordination meeting between both Hayspur and Sawtooth hatcheries, as well as Regional and Bureau personnel, stocking sites and numbers of fish were determined. A pamphlet showing our stocking areas on the Salmon River was produced by Region 7 to help inform anglers and was received with great response (Figure 1). We received our first shipment of R9 rainbow trout (20,000) in May, and we put them in two of our B section raceways below our spring chinook.

PROGRAM OPERATION

Our stocking responsibilities were the accessible small lakes in the Stanley Basin (6), some tributary streams to the Salmon River (6) and the main Salmon River, which was broken down into four sections. These sections were from Hell Roaring Creek to Redfish Lake Creek, Redfish Lake Creek to Valley Creek, **Valley** Creek to Yankee Fork, and Yankee Fork to Yankee Fork Ranger Station.

Stocking started on May 25, 1990 and continued through early September. The first fish stocking operations were done in areas not affected by snow runoff. Normally, due to late snow melt and runoff, most fish stocking occurs in July and August. A total of 64,594 R9 rainbow catchables (21,906 pounds) were stocked in the Stanley Basin by Sawtooth Hatchery. Of this total, 45,284 rainbow were stocked in the Salmon River, most within ten miles of Stanley (Table 1). This number of fish was spread out in 84 stocking trips. This was one of the objectives of the program, in that we attempted to keep fish in front of the

Figure 1. Stocking map.